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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,231	04/04/2005	Young-Nam Yun	21C-0190	1269

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EXAMINER	
DUONG, THOI V	

ART UNIT	PAPER NUMBER
2871	

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08/06/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/530,231	YUN, YOUNG-NAM	
	Examiner	Art Unit	
	THOI V. DUONG	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 21, 2008 has been entered.

Accordingly, claims 1 and 4 were amended. Currently, claims 1-10 are pending in this application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 4, 5 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Kotchick et al. (Kotchick, US 6,975,455 B1).

Re claim 4, as shown in Fig. 4, Kotchick discloses a liquid crystal display device 400 comprising:

a light generating section comprising a light source 410 and a light control layer 412 to generate first light 442 which is redirected by the light controller 412 (col. 6, line 56 through col. 7, line 3); a semi-transmissive film 408 disposed on the light generating section which transmits the first light 442 and a portion (light 435) of a second light 434 which is incident to the semi-transmissive film 408 from a direction substantially opposite to the first light 442, and which reflects only a second portion (light 436) of the second light 434,

wherein the second light 434 has a first polarity (dot circle perpendicular to the drawing) and a second polarity (double arrow parallel to the drawing), wherein the second polarity is substantially orthogonal to the first polarity;

a polarizing member 406 (which includes a polarizing layer 902 and a light-diffusing layer 908 (light-diffusing adhesive) integrally formed with the polarizing layer as shown in Figs. 9 and 10, col. 11, line 61 through col. 12, line 42), wherein the polarizing member is disposed adjacent to the semi-transmissive film 408 so as to generate a third and a fifth light by polarizing and diffusing the transmitted portion of the first light and to generate a fourth and a sixth light by polarizing and diffusing the reflected portion of the second light; and

a liquid crystal display panel 404 disposed on the polarizing member 406 to display an image by selectively receiving the fifth light or the sixth light.

It is inherent that the liquid crystal display panel includes a first substrate, a second substrate opposite to the first substrate and liquid crystal interposed between the first and second substrates.

Since the light generating section comprising the light control layer 412, it is clear that the first light 442 directly enters into the semi-transmissive film after exiting from the light control layer of the light generating section.

Re claim 5, as shown in Figs. 9 and 10 (col. 11, line 61 through col. 12, line 42), Kotchick discloses that the light-diffusing layer 910 (light-diffusing adhesive) is positioned in opposition to the semi-transmissive film 904/906 so as to generate the third light by diffusing the first light and to generate the fourth light by diffusing the second light, and the polarizing layer 902 is disposed on the light-diffusing layer 910 so as to generate the fifth light by polarizing the third light and to generate the sixth light by polarizing the fourth light.

Re claim 9, as shown in Fig. 9, the polarizing layer 902 is positioned in opposition to the semi-transmissive film 904/906 so as to generate the third light by polarizing the first light and to generate the fourth light by polarizing the second light, and the light diffusing layer 908 is disposed on the polarizing layer 902 in opposition to the first substrate so as to generate the fifth light by diffusing the third light and to generate the sixth light by diffusing the fourth light.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kotchick et al. (Kotchick, US 6,975,455 B1) in view of Epstein et al. (Epstein, US 6,801,276 B1).

Re claim 1, as shown in Fig. 4, Kotchick discloses a liquid crystal display device 400 comprising:

a light generating section comprising a light source 410 and a light control layer 412 to generate first light 438, 440, 442 which is redirected by the light controller 412 (col. 6, line 56 through col. 7, line 3);

a polarizing member 406 which transmits a first polarity of light 441,443 (dot circle perpendicular to the drawing) and absorbs a second polarity of light 439 (double arrow parallel to the drawing) which is substantially orthogonal to the first polarity, a polarizing member 406 (which includes a polarizing layer 902 and a light- diffusing layer 908 (light-diffusing adhesive) integrally formed with the polarizing layer as shown in Figs. 9 and 10, col. 11, line 61 through col. 12, line 42), and the polarizing member is disposed adjacent to the light generating section so as to generate a second and a third light by polarizing and diffusing the first light; and

a liquid crystal display panel 404 disposed on the polarizing member 406 to display an image by using the third light.

It is obvious that the liquid crystal display panel includes a first substrate, a second substrate opposite to the first substrate and liquid crystal interposed between the first and second substrates.

Also, it would have been obvious to omit the semi-transflective film 408 of the liquid crystal display device of Kotchick where the function attributed to such film is not desired for a transmissive type liquid crystal display device (see MPEP 2144.04.II.A).

Accordingly, without the semi-transflective film, the first light directly enters into the polarizing member after exiting the light generating section.

However, Kotchick does not disclose the light-diffusing layer having a concavo-convex surface.

As shown in Fig. 7, Epstein discloses a light-diffusing layer 708 equipped with a prismatic structure 712 having a concavo-convex surface (col. 13, lines 23-55).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the liquid crystal display device of Kotchick with the teaching of Epstein by forming a light-diffusing layer having a concavo-convex surface in order to enhance the brightness of the display (col. 13, lines 52-55).

Re claim 2, as shown in Fig. 10, Kotchick discloses that the light diffusing layer 910 is positioned in opposition to the light generation section so as to generate the second light by diffusing the first light, and

the polarizing layer 902 is disposed on the light-diffusing layer 910 so as to generate the third light by polarizing the second light.

Re claim 3, as shown in Fig. 9, Kotchick discloses that the polarizing layer 902 is positioned in opposition to the light generating section so as to generate the second light by polarizing the first light, and the light-diffusing layer 908 is disposed on the polarizing layer 902 so as to generate the third light by diffusing the second light.

6. Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kotchick et al. (Kotchick, US 6,975,455 B1) in view of Iijima (US 6,906,767 B1).

The liquid crystal display device of Kotchick includes all that is recited in claim 6 except for the light-diffusing layer having a haze value above 20%.

Iijima discloses a liquid crystal display device comprising a light-diffusing layer having a haze value above 20% (col. 9, lines 28-50 and col. 12, lines 26-31).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the liquid crystal display device of Kotchick with the teaching of Iijima by employing a light-diffusing layer having a haze value above 20% in order to obtain a sufficiently diffused state, thereby reducing the parallax generation (col. 9, lines 54-57).

Re claim 10, as shown in Fig. 5 of Iijima, the second substrate 21 comprises a color filter 27 and a first electrode 24 and the first substrate 22 comprises a switching device and a second electrode 25 opposite to the first electrode 24 (col. 12, lines 1-15).

7. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kotchick et al. (Kotchick, US 6,975,455 B1) in view of Kawamoto et al. (Kawamoto, US 6,809,782 B1).

As shown in Fig. 9, Kotchick discloses the light-diffusing layer 908 comprising coating material coated on one surface of the polarizing layer 902; however, Kotchick does not suggest scattering material mixed with the coating material as recited in claims 7 and 8.

As shown in Fig. 1, Kawamoto discloses a polarizing member comprising a polarizing layer 12 and a light-diffusing layer 11 coated on one surface of the polarizing layer 12, wherein the light-diffusing layer 11 comprising coating material and scattering material mixed with coating material and wherein the coating material comprises acryl-based resin and scattering material includes silica particles (col. 2, line 66 through col. 3, line 37 and col. 4, lines 25-49).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the liquid crystal display device of Kotchick with the teaching of Kawamoto by forming a light-diffusing layer comprising coating material coated on one surface of the polarizing layer and scattering material mixed with coating material in order to inhibit coloration in viewing from a slantwise direction and attain bright displays (col. 1, lines 6-10).

Response to Arguments

8. Applicant's arguments filed July 21, 2008 have been fully considered but they are not persuasive.

Re claim 4, Applicant argued that Kotchick does not teach the first light directly entering into the semi-transmissive film after exiting from the light generating section because the first light enters the semi-transflective film 408 through the light control layer 412. The Examiner disagrees with Applicant's remarks since the light control layer is considered as a part of the light generating section which comprises the light source 410 and the light control layer 412. Kotchick teaches that a light control layer 412 may be disposed between the light source 410 in order to enhance the illumination characteristics of the light transmitted from the light source 410 (col. 5, lines 47-50). Accordingly, the light control layer is used to redirect all the lights coming from the light source for improving the brightness of the display. It would have been obvious to one skilled in the art that the light control layer is not required if it is not needed for an improvement of the display device (see MPEP 2144.04.II.A). Moreover, since Applicant does not disclose the composition of the claimed light generating section, it is not sure if the claimed light generating section comprises only the light source 410 as disclosed by Kotchick. Thus, Kotchick does teach the first light directly entering into the semi-transmissive film after exiting from the light generating section which comprises a light source and a light control layer.

Similarly, re claim 1, Applicant also argued that Kotchick does not teach the first light directly entering into the polarizing member after exiting from the light generating section because the first light enters the polarizing member 406 through the light control layer 412 and the semi-transflective film 408. The examiner disagrees since the light control layer 412 is considered as a part of the light generating section for enhancing

the illumination characteristics of the light transmitted from the light source 410 as discussed above. Moreover, it would have been obvious to omit the semi-transflective film 408 of Kotchick where the function attributed to such film is not required for a transmissive liquid crystal display device (see MPEP 2144.04.II.A). Thus, Kotchick does teach the first light directly entering into the polarizing member after exiting from the light generating section which comprises a light source and a light control layer.

Further, Applicant argued that the layer 908 in Figs. 9 and 10 is an adhesive layer, not a light diffusing layer. The Examiner disagrees since Kotchick discloses that the layers 908, 910 and 912 are the diffusing adhesive layers (col. 12, lines 33-42).

Thus, Kotchick does teach or disclose the features of the present invention as claimed in claims 1 and 4.

Finally, Epstein is employed for teaching a light-diffusing layer having a concavo-convex surface for enhancing the brightness of the display; Iijima is employed for teaching a light-diffusing layer having a haze value above 20% in order to obtain a sufficiently diffused state, thereby reducing the parallax generation; and Kawamoto is employed for teaching a light-diffusing layer comprising coating material coated on one surface of the polarizing layer and scattering material mixed with coating material in order to inhibit coloration in viewing from a slantwise direction and attain bright displays.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (571) 272-

2292. The examiner can normally be reached on Monday-Friday from 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms, can be reached at (571) 272-1787.

/Thoi V. Duong/ - Primary Examiner

July 29, 2008